

What is claimed is:

1. A fiberglass insulation binder composition comprising a polycarboxy polymer, a polyhydroxy crosslinking agent, a mineral oil dust suppressing agent, a surfactant selected from the group consisting of cationic surfactants, amphoteric surfactants, nonionic surfactants, and mixtures thereof, and sufficient water to provide a mixture comprising up to 98 wt-% water based on the total weight of solids in the mixture.
2. The fiberglass insulation binder composition of claim 1, wherein the surfactant is a nonionic surfactant selected from the group consisting of: ethylene oxide and propylene oxide condensates which include straight and branched chain alkyl and alkaryl polyethylene glycol and polypropylene glycol ethers and thioethers; alkylphenoxypoly(ethyleneoxy)-ethanols having alkyl groups containing 7 to 18 carbon atoms and having 4 to 240 ethyleneoxy units; polyoxyalkylene derivatives of hexitol; partial long-chain fatty acids esters; condensates of ethylene oxide with a hydrophobic base formed by condensing propylene oxide with propylene glycol; sulfur containing condensates prepared by condensing ethylene oxide with higher alkyl mercaptans or with alkylthiophenols wherein the alkyl group contains 6 to 15 carbon atoms; ethylene oxide derivatives of long-chain carboxylic acids or oleic acids or mixtures of acids; ethylene oxide derivatives of long-chain alcohols; and ethylene oxide/propylene oxide copolymers.
3. The fiberglass insulation binder composition of claim 2, wherein the surfactant is an ethoxylated 2,4,7,9-tetramethyl-5-decyn-4,7-diol surfactant.
4. The fiberglass insulation binder composition of claim 1, wherein the polycarboxy polymer is a polyacrylic acid polymer.
5. A process for producing a fiberglass insulation binder comprising the steps of preparing a mixture of a polycarboxy polymer, a polyhydroxy crosslinking agent, a mineral oil dust suppressing agent, a surfactant selected from the group consisting of cationic surfactants, amphoteric surfactants, nonionic surfactants, and mixtures thereof, and sufficient water to

provide a mixture comprising up to 98 wt-% water based on the total weight of solids in the mixture, and blending the mixture to form a polymeric composition useful as a fiberglass insulation binder.

- 5     6.     The process of claim 5, wherein the amount of surfactant employed ranges from about 0.01 to about 10 weight percent based on the total weight of binder solids.
7.     The process of claim 6, wherein the amount of surfactant employed ranges from about 0.2 to about 5 weight percent based on the total weight of binder solids.
- 10     8.     The process of claim 5, wherein a pre-mixture containing the polymer and crosslinking agent comprises about 50 to 60 wt-% water.
9.     The process of claim 5, further comprising the step of adding a hydrolyzed silane coupling agent to the mixture.
- 15     10.    The process of claim 9, wherein the weight of hydrolyzed silane coupling agent added is from 0.01 to 10 wt-% based upon the weight of the mixture.
- 20     11.    The process of claim 1, wherein the weight of mineral oil dust suppressing agent added is up to 20 wt-% based upon the weight of the mixture.
12.    The process of claim 5, wherein the polycarboxy polymer is a polyacrylic acid polymer.
- 25     13.    The product of the process of claim 5.
14.    A process for manufacturing a fiberglass insulation product, comprising:  
      (a) applying onto a fiberglass substrate, a binder composition comprising a polycarboxy polymer, a polyhydroxy crosslinking agent, a mineral oil dust suppressing agent, a surfactant  
30     selected from the group consisting of cationic surfactants, amphoteric surfactants, nonionic

surfactants, and mixtures thereof, and sufficient water to provide a mixture comprising up to 98 wt-% water based on the total weight of solids in the mixture and

(b) curing the treated fiberglass substrate.

5     15.     The process of claim 14, wherein curing is carried out in a curing oven at a temperature from 200°C to 350°C for 30 seconds to 3 minutes.

16.     The product of the process of claim 14.

10     17.     A process for manufacturing a fiberglass insulation product, comprising:

(a) supplying melted glass to a fiber forming device;

(b) blowing said melted glass downwardly within a forming chamber of said forming device to attenuate glass fibers;

(c) applying the binder composition of claim 1 onto said glass fibers;

15     (d) depositing said glass fibers onto a foraminous forming conveyor within said forming chamber;

(e) gathering and forming said glass fibers into a mat on said conveyor using a vacuum drawn through said mat from below said forming conveyor, wherein residual heat contained in said glass fibers and said vacuum volatilizes said water; and

20     (f) curing the mat so treated.

18.     The process of claim 17, wherein curing is carried out in a curing oven at a temperature from 200°C to 350°C for 30 seconds to 3 minutes

25     19.     The product of the process of claim 17.